Edison Portland Cement Company Records
Plant Operations Notebook, N-99-07-01.2

This notebook is a continuation of N-99-07-01.1. It was used by Edison for notes and calculations relating to operations at the Stewartsville works during the period July 1905-February 1906. The entries concern plant capacity and losses in time. The front cover is marked "Cement." The pages are unnumbered. Approximately 60 pages have been used.

N-(99-07-01.2)

208 | 800 (4

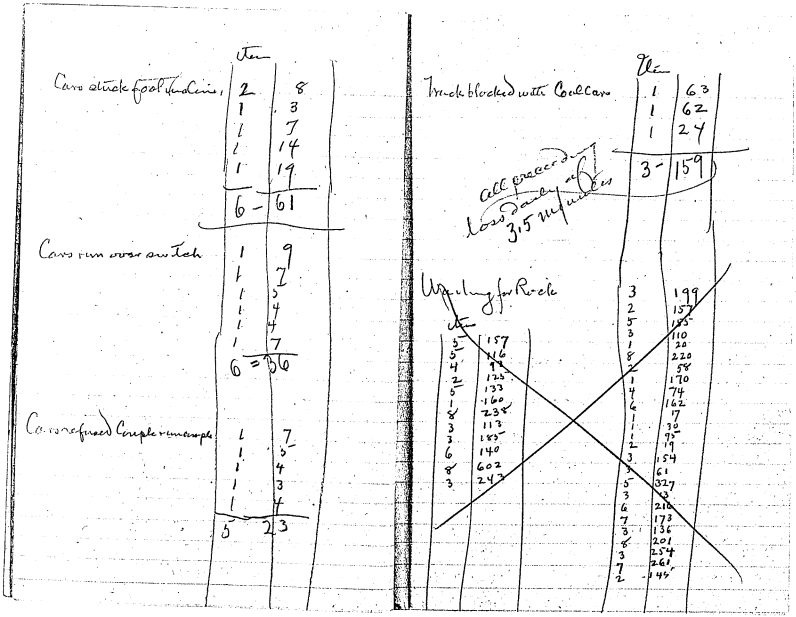
137
260
61
36
23
159

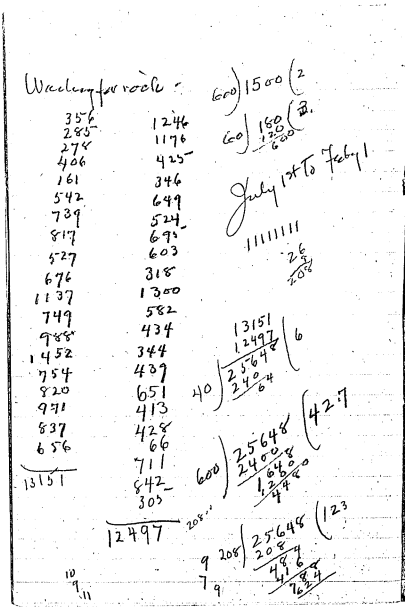
20 | 676

137
260

Cars stuck on switch	Yards	Minutes
	3	13
	3	12
	1	3
	2	25
	1	5
	1	10
	1	4
	1	19
	1	14
	1	4
	1	3
	2	7
	1	8
	20	127

Cars off track		
	1	98
	1	25
	1	40
	1	63
	1	5
	1	13
	1	16
	7	260


Cars attack from Kendeine
Cars run over an Itch
Cars refused Couple run amuck
Trucks blocked with Coal Cars
all traces of
Load Danger
3.5 Megawatts
Unpeeling for Rock



Waiting Book —

Total loss 25648 —

208 working days —

Loss average daily

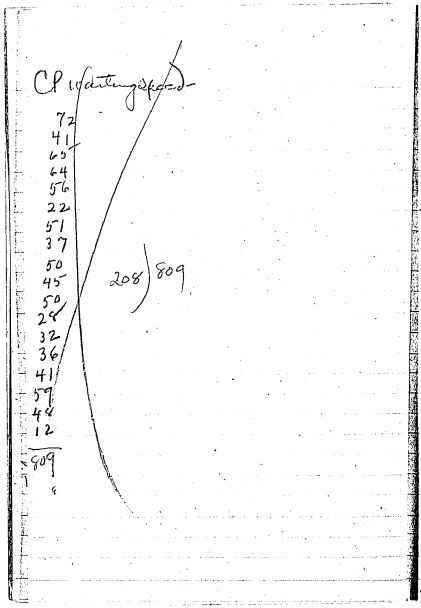
123 minutes —

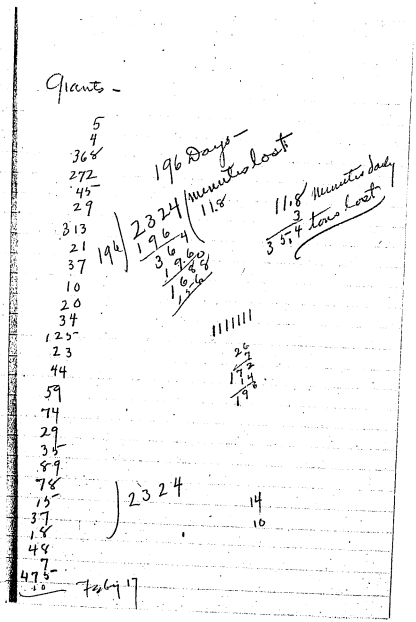
which at rate of 180 tons hour

3 tons min or

$\frac{123}{369}$ tons daily loss Capacity

All other losses do not Exceed 4 minutes daily or loss of 12 tons daily —


CP updating speed -
72
41
65
64
56
22
51
37
50
45
50
25
32
36
41
59
48
12
809
208 / 809


Giants -
5
4
368
272
45
29
313
21
37
10
20
34
125
23
44
59
74
29
35
89
78
15
37
18
48
7
475
10
196 Days
196 / 2324 minutes Lost
11.8
1960
364
1764
1176
196
11.8 minutes day
3
35.4 time lost
1111111
25
17
19
1
2324
14
10
Feb 17

1st 36

25
345
83
38
25
14
20
121
15
43
21
117
253
98
59
24
28
130
103
10
8
6

1472

196 days) 1472 (7.5 minute lost
1372
100

7.5 minute lost daily
7½
22.5 time

2nd 36

132
86
47
64
30
22
227
17
83
56
52
61
63
33
14
365
34
6
7

1388

196 days) 1388 (7 minute lost
1372
16

7 minute, every 28 time Continuing

3rd 36 =

179
24
141
118
62
71
38
66
135
53
324
181
71
46
242
106
66
111
52
52
59
41
178
61

2472

9
11

1968 | 2472 | minute lost
1968 | 126

504
396
1776

126 minutes carry over

3 | 378 two Lost

7

Oil in table CP –

32
5
37
54
20
22
5
220

1

Happens in CP

144 | 43 | 31
16 | 322
92 | 43
18 | 47
204 | 19
173 | 24
54 | 116
112 | 276
32 | 49
138 | 312
60 | 24
341 | 49
47 | 38
77 | 129
1543 | 1991

1543
1491 | 52
03
1964
1964
0700
1964
1936
98

minute lost
154 minute day

154
3
462 two

Car hoist + skip dump.

56	227
15	58
89	31
11	25
105	63
61	283
17	79
26	766
492	950
22	196) 1,716 (8.7
122	1,568
34	148
950	1,372

8.7
3
26.1 tons

Engine Room No 1

79	
78	
28	
98	
33	
43	
23	196) 516 (2.6
94	392
40	1,240
516	1,176

2.6
3
7.8 tons

Dryer No 1 - CP -

14
43
45
91
100
76
608
232
112
145
191
209
470
240
2619

196) 2619 (13.3
196
649
588
610
574
36

13.3
3
39.9 tons/day

Capacity 50 tons hour

Feed Rate in Byron

20
50
14
196) 980 (143
784
1960
1960

4/10ths of ton daily

Chalk Rills - Not July 1

85
363
110
28
190
1
37
137
99
47
174
202
88
5550
2570
2439
4
730
424
4424
1427
365
1908
2998
558
1536
618
739
27789

196 | 27789 (148 minutes
1568
1349
1176
392

141 minutes — at 30 tons hour

pay roll — 70.5 tons daily loss

9 only fund record Not Full

12
12
9

Eng Not 2

61
115
157
178
107
90
163
60
460
58
246
124
111
75
41
228
58
389
63
115
85
41
145
3070

196 | 3070 (156
196
1148
980
168

156 tons hour
1 ton min

156 average minute daily

156 tons daily

10
11
1

Electrical Trouble Cases —

25
80
108
316
48
56
53
51
60
90
87
1082
155
93
45
65
25
15
120
2576

196 | 2576 — minutes
1961
656
588
68
28
13.1 hours lost during —

Blowsworth to Blowsworth

30
23
4
12
17
23
118
196) 1180 (6
1176
4

1/2 minute daily

Old Syocan Blowsworth

less than 1/2 minute
daily

1st 36 Rolls Chamber C—

75
110
65
70
165
208
90
65
35
125
95
1440
86
310
725
75
5
8
3734

196) 3734 (19
196
1778
1764
14

19 minutes daily

2nd 36 Rolls Clinker Cr

665
310
240
490
45
20
125
50
75
70
1225
2332
370
995
1440
100
255
725
270
8932

196 | 8932 (45.5
784
1092
980
1120
1120

4
9
4

45.5 minutes lost daily

Coal Crushing Rolls

340
340
425
5
125
270
50
765
430
100
115
235
525
55
50
3196

17.7 minutes lost daily

Days 180 | 3196 (17.7
180
1360
1260
1000
900

Blower House 102 –

40
59
105
52
45
75
19
59

196 | 4554 | 23
392
630
588
42

Blowers only

2.3 Minutes Cost daily

Engine 103 – July

4
1
63
83
26
75
202
70
529
221
98
617
61
99
43
26
8
7
7
2216

196 | 2216 | 11.3
196
250
196
56

11.3 Minutes Cost Daily

Border Room

52	445
444	4558
127	465
158	231
1613	369
460	29
422	120
997	3
3438	6217
3821	3
4809	
3143	
1231	
1135	
539	
356	
1600	
24295	
7	
3	
7	

124 Minutes daily

196) 24295 (124
196
469
392
779
784

Conveyor 101

87	
11	
13	
235	
22	
231	
31	
35	
109	
35	
87	
107	
95	
15	
1113	
6	
5	

196) 1113 (5.7
980
132
7.5

5.7 minutes at 3 times min
3
17.1 tons daily loss
to Plant Capacity

Conv 102

9
3
115
13
84
65
34
284
141
191
65
63
76
37
116
1298

6
6

196 | 1298 (6.6
1176
120

6.6 minutes daily of flow
19.8 Daily flow to Effluent
Capacity

Conv 104

40
94
76
162
151
209
262
508
83
52
54
649
340
84
398
155
140
45
3442

7
9

196 | 3442 (17.5
196
1482
1470
120
1.

17.5 minutes daily
3
52.5 = daily loss capacity to
GP

Conv 109 —

70
138
70
142
256
155
302
1757
1484
40
1030
68
20
90
92
77
75
131
150
120
30
479
1232

5444

1111

24
1232

92 | 1232 (13.4
92
316
276
40
36
4

196 | 5444 (34
588
588
784
784

34 men Coal daily
at 1 ton per man —
34 tons daily —
taking out 104 days for Xmas
just in case by Xmas
just in case
daily or 13.4 tons daily
to Chalkfield

110 Con —

110
27
75
36
242
58
45
127
196
213
260
410
213
2012

196 | 2012 (10.2
196
1820
1764
56

10.2 minutes lost daily
10.2 Tons loss output
10.2

111 Con-

576
670
22
329
377
264
419
23
130
72
504
130
633
9
170
63
75
181
141
913
545
170
161
117
38
18

10
11

6750

586 | 6750 | 363
558
1176
1134
42

363 minutes daily
363 tons Capacity

112 Con-

29
20
18
48
35
94
24
177
118
119
13
27
83
107
17
12

1059

196 | 1059 | 54
980
784
784

5.4 minutes daily
5.4 tons Capacity

113-Con Screw-Chalk plant.

Aug 15 Yo Jung 26

50
50
179
67
346
26
80
80
80

days 130 | 346 | 2.6
26
80
78
2

11111 2.6 minutes delay lost to Check for cracks

26
130

114-screw-

298
45
298
20
9
146
816

196 | 816 | 4.1
784
320

4.1 minutes lost due to Check for cracks

24

Conveyor 125

70
30
1205
270
175
60
517
951
2885
45
430
97
5877

186 | 5877 | 31.6
558
297
1860
1116

31.6 minutes lost daily

Crew 1260 —

30
90
140
45
570
60
270
55
530
290
558
35 45
2465
20
2290
225
1015
150
1395
1260
1140
16083

196 | 16083 | 82
1568
403
392
11

82 minutes lost daily

Pilots —

40
50
35
95
45
35
300
196 | 300 | 1.5
196
1040
980
60

1½ minutes lost daily

125 — Chilled shot scraper

285
245
490
395
25
105
120
75
195
20
70
20
2045

196) 2045 (10.4
196
850

10.4 minutes daily
Loss to Clutch Lube

130 - 36" belt, Cement Crushing

136
61
58
25
117
35
69
170
587
1336
610
36
526
120
3889

196) 3889 (19.8
1764
1254
1176
78

19.8 minutes Costantly

Con 131

5
203
195
93
283
96
252
28
111
43
237
415
65
2072

5
6

196 | 2072 (10.6
196
1120

10.6 minutes last day

132 –

284
270
323
39
1044
354
118
33
265
121
722
27
45
41
421
54
38
4199

6
6

196 | 4199 (21.4
392
379
196
183

21.4 minutes I got today!

Con. 137

171
445
863
127
92
405
87
84
1270
53
81
520
158
1027
250
153
2012
31
80
73
90
136
747
9990 (134

5 Compressors

196 | 8990 | 45.8
784
1150
980
17

45.8 minutes lost daily

5 5

138 — Tunnel Blower House

33
100
53
38
44
48
75
102
78
56
125
32
35
26
316
69
73
1303 (7

196 | 1303 | 6.6
1176
127

6.6 minutes lost daily

13q – seven Cen Bloom H

151
349
157
422
80
57
57
58
1331

196 | 1331 | 6.7
1176
1372
1372
198

6.7 minimum cost

140 – seven – Bloom H – No 2

12
280
16
24
3
138
473

196 | 473 | 2.4
392
810

2.4 minimum cost

Con. 143 - to Convert Jlk. H,

64
30
60
60
15
53
282

196 | 282 (1.4
196.0
86

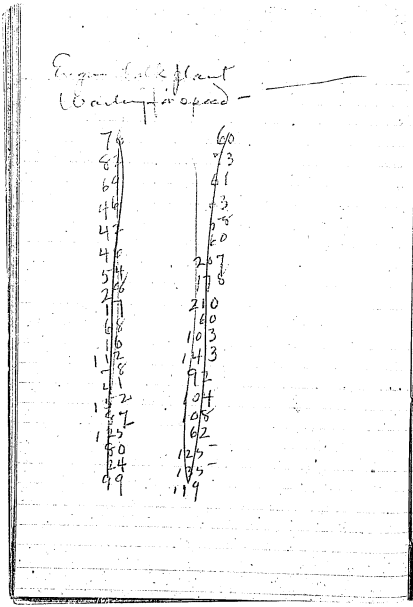
1.4 Hundredweight

144 Hundredweight of Jlk. H,

60
172
255
80
262
124
45
1028

196 | 1025 (5.2
980
45

5.2 Hundredweight



1905—

Record missing

128
89
91
165
56
92
58
35

Conv 99—

16
25
8
18
47
52
19
44
41
196 | 300 (1.5
196
104

1½ minutes Loss Capacity
CP Plant

Changing Tripper CP—

104
92
87
196
32
34
112
43
38
55
467
152
27
38
46
33
52
19
68
15
10
9
1853

196 | 1853 (9.4
1764
89

9.4 minutes Lost Changing Tripper to Check Plant

Can 190

89
80
424
185
84
421
1249

146 | 1283 | 1146 | 137 | 6.5 | 6.5 hrs Actual Cost

~~141 Cons~~ July 1 Dec 18

Quarry -

1111
26
104
122 drip

Working for Cars

430	1830		
785	2970		
460	1535		
150	1975		
850	2265		
430	1875		
640	2515		
600	1400		
375	16665		
160			
435			
750			
1598			
2173			
1580			
1355			
12781			
16665			
29446			

down 122 244

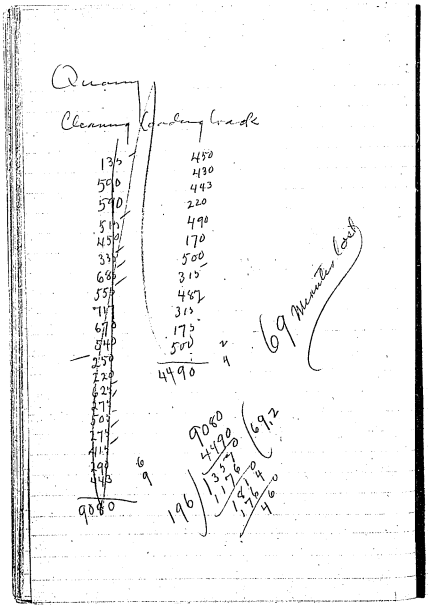
244

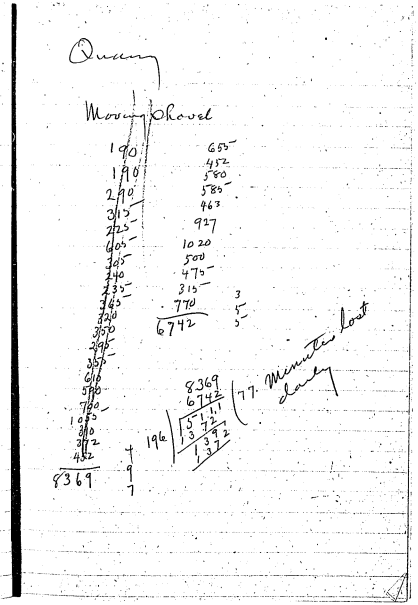
29446
244
2885
1626
1320
1479

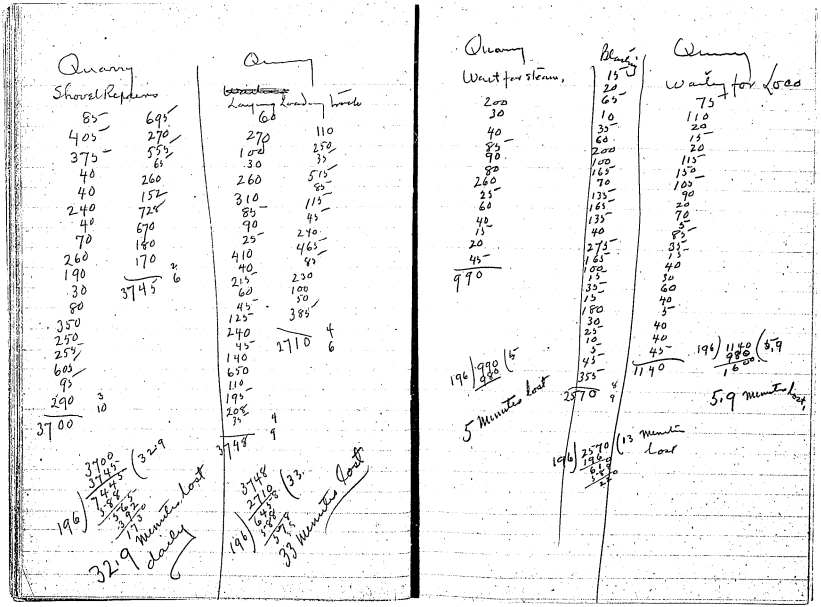
241 minutes lost daily

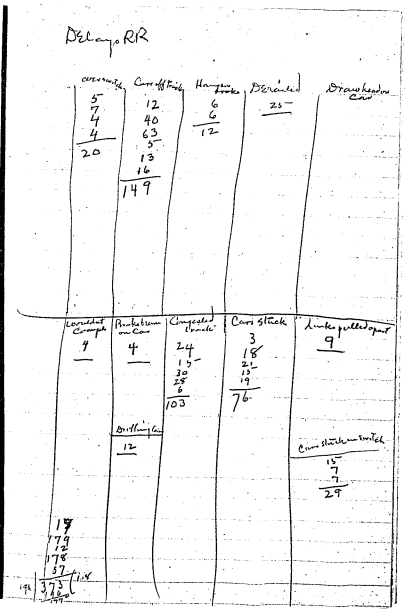
241
122
82
41
241
2282

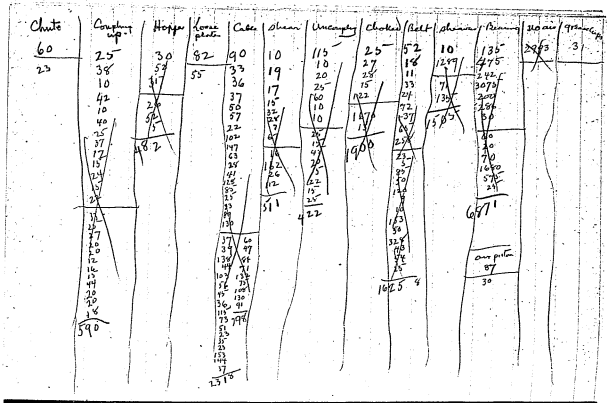
2413

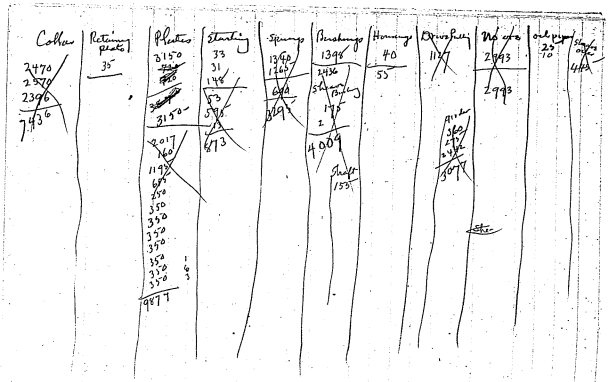

Quarry
Cleaning
Loading
Track
130
560
590
515
459
335
650
559
717
670
540
250
220
624
277
503
277
415
209
443
9080
450
430
443
220
490
170
500
315
467
315
175
500
4490
69 minutes lost
9080
4490
196
1357
1176
1814
1764
46
69.2

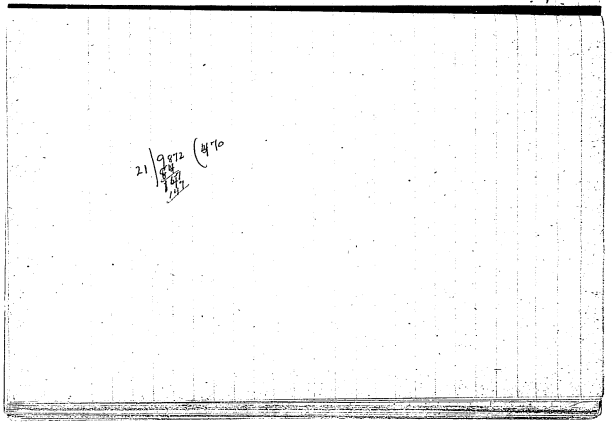

Quarry
Moving
Gravel
190
190
240
315
225
605
345
340
335
765
350
350
390
355
610
540
780
1095
310
372
482
8369
655
452
580
585
463
927
1020
500
475
315
770
6742
8369
6742
196
1372
1372
77 minutes lost
Loading

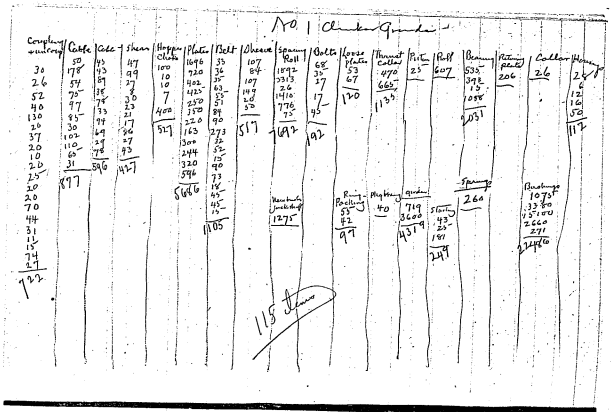

Quarry
Shovel Repairs
85
405
375
40
40
240
40
70
260
190
30
80
350
250
254
603
93
290
3700
695
270
555
65
260
152
725
670
180
170
3745
2
6
Quarry
Loading Loads
60
270
100
30
260
310
85
90
25
410
40
215
60
45
125
240
45
140
650
110
195
208
35
3748
4
9
110
250
35
515
85
115
45
270
465
95
230
100
50
385
2710
4
6
3700
3745
45
3748
3748
2710
1038
196
32.9 Minutes Lost daily
33 Minutes Lost
Quarry
Wait for steam,
200
30
40
50
90
80
260
25
60
45
15
20
990
990
196
5 Minutes lost
Quarry
15
20
65
10
35
60
200
100
165
70
135
165
135
40
275
165
100
35
15
180
30
25
10
5
45
355
2870
4
9
196
2570
1960
610
588
22
13 Minutes Lost
Quarry
Wait for Loads
75
110
20
15
20
115
130
100
90
20
70
85
85
15
40
80
60
40
5
40
40
45
1140
196
1140
980
160
5.9
5.9 Minutes Lost


Delaware RR
Overcrowded
5
7
4
4
20
Cars off track
12
40
63
5
13
16
149
Hauling trucks
6
6
12
Derailed
25
Drawheads on Cars
Locomotive Coupler
7
Problems on Cars
4
Drifting Cars
12
Congested tracks
24
1
10
20
25
6
103
Cars stuck
3
18
21
13
19
76
Links pulled apart
9
Cars stuck in switch
15
7
7
29
17
179
72
178
37
373
194


Chute
60
23
Complaint cap.
25
38
10
42
10
40
25
37
17
15
23
15
38
38
29
27
24
20
12
16
15
49
20
20
14
590
Hopper
30
54
31
24
58
5
482
Loose plate
82
55
Cabs
90
33
36
37
50
57
22
102
107
63
24
101
125
122
21
93
99
130
37
34
130
98
102
75
19
36
115
73
0
25
15
153
107
37
2510
69
87
98
21
138
75
100
126
91
799
abscess
10
19
17
15
22
24
7
8
16
162
60
192
511
Unscrupley
115
10
20
25
60
10
10
26
192
42
75
122
15
25
422
choked
25
27
25
15
122
1674
15
60
72
37
60
25
23
5
97
20
134
9
60
163
59
328
100
95
25
1612.5
Cleft
52
18
11
33
21
72
15
1900
abscess
10
1299
7
130
1580
Bumps
135
275
142
3079
200
286
80
80
30
70
1690
575
231
6671
compliment
87
30
Stigmata
2883
Grimace
3
422
570
701


Collar
Retaining plate
35
Plastics
Stamping
Springs
Bushings
Housings
40
55
Drawpieces
Machine
Oil seals
Stampings





Oct 3 to Oct 13 No 1 motor running 10 days
new brushes —
from Dec 12 to Dec 19 new brushes — 7 days
" Dec 22 to 26 —— " 4 days —

Chalk

bbb

Tons daily				Hours			Hours
Chalk	7	1550	2441.5	4.4	49%	157.3	2. 36 min
Chalk		400	249.8	4.9	22%	127.4	2. 7 "
Clunker Crusher		50	183.0	3.3	14%	53.0	53 min
Cement Secondary		250	362.4	6.2	28%	120.0	2. 00
Quarry			475.0	8.0	85%	246.0	4. 6
RR			1.8	1.8		0 0	0 0
Kiln			240.0	4.0	19%	156.0	2. 36 min
Pkg-			1570.0	2.39			
			0	31.9		959.7	

60) 1913 (31.9
180
130
120
10

60) 959.7 (16.
60
359

CP. Working Rock	123.0
Oper H. + Dump -	6.7
Dryer -	3.0
Grinds + Dryer	11.6
Bin pump	13.0
	157.3

Quarry - Enough Cars & skips. So there is no
waiting for Cars — will have 150

Crushing Plant

50 or greater HP Motor on No 4. and less
drops of Valves on Line,
Stronger Chain & less repairs on tripper

1 2 & 3rd 36 Rolls, better Washing,
Don't send so many large Chunks from Quarry
12½ minutes lost every day from this cause
alone, or 7 skips daily -
gears on skip dump not strong enough —
See that Exhaust fan at Dryer also one
has power & also that the fan blades
are removed out of mill time, by having 4
doors instead of 2 -
4 minutes lost daily — Extra wheel
at Dryer -

Have sufficient Skips & Cars so mill never
waits for Rock. 123 minutes saved daily
which at 180 tons hour is 360 tons increased
output daily -

Flexible shaft, Drive + head drives generally
Shafts - pumps + Gearing of heavy Conveyors
too light + Cause lots of delay -
Should be changed.

New Rolls in Chalk + Clinker Grinding
large bearing surface, plenty oil -
Wider drive belts - No shear pins -

Chilled bushings in wheels + on shaft.
125 + 126 Conveyor -

132 Conveyor put in new way -

Big Ceasar taken out + fixed screws
put in -

Quicker + more convenient methods
devised for changing plates on fine
Grinders -

Aprons fixed on Ribs -
Too much lost time at Generation Coal plant.

From studying belt wear, I think wear will be greatly diminished if very fine stuff is first put on belt before coarse stuff is dumped on –

Feed screws tube mill stick, plug + break too much.